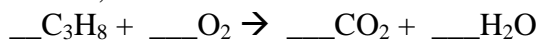


Stoichiometry Practice #2

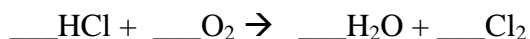
You will need to show all work including units. Some of the problems have the unbalanced equation written out, some of the problems you need to write it out yourself, so use your reaction type hand out.

- How many grams of calcium carbonate are required to prepare 50.0 g of calcium oxide?
$$\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$$
- When 0.50 g of magnesium reacts with silver nitrate, how many grams of silver are prepared? (Single Displacement) $\text{Mg} + \text{AgNO}_3 \rightarrow$
- If 75.0 g of copper react with mercuric nitrate, how many grams of mercury form?
$$\text{Cu} + \text{Hg}(\text{NO}_3)_2 \rightarrow \text{Cu}(\text{NO}_3)_2 + \text{Hg}$$
- What mass of Na_2SO_4 is produced when sulfuric acid reacts with 200.0 g of sodium chloride?
$$\text{NaCl} + \text{H}_2\text{SO}_4 \rightarrow \text{HCl} + \text{Na}_2\text{SO}_4$$
- In the electrolysis of 144 g of water, how many grams of oxygen are prepared?
$$\text{H}_2\text{O}(\text{l}) \rightarrow \text{H}_2(\text{g}) + \text{O}_2(\text{g})$$
- When 60.0 g of aluminum react with hydrochloric acid (HCl), how many grams of hydrochloric acid react? (single displacement)
- How many grams of magnesium chloride are produced by treating 4.00 g of titanium (III) chloride with magnesium? (Single displacement reaction)
- How many grams of sulfur are required in the preparation of 800g of sulfur dioxide?
$$\text{S} + \text{O}_2 \rightarrow \text{SO}_2$$
-
- In the production of methanol, how many moles of hydrogen are required to react with 335g of carbon monoxide?
$$\text{CO} + \text{H}_2 \rightarrow \text{CH}_3\text{OH}$$
- What mass of oxygen gas is needed to react with 340 moles of hydrogen gas to produce water?

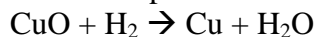
12. If 200.0kg of propane are burned, what mass of carbon dioxide is formed?



13. How many moles of HCl are needed to form 3.5×10^3 moles of Cl_2 ?



14. In the reaction of 8.4×10^3 g of copper (II) oxide with hydrogen gas, how many moles of hydrogen are required for the reaction to take place?



15. If 120 grams of mercuric oxide are decomposed, how many cubic decimeters of oxygen are released?



16. How many grams of sodium hydroxide will react with 1.50×10^3 g of phosphoric acid (H_3PO_4) to produce sodium phosphate and water?

17. If 90.0 g of barium chloride react with sulfuric acid, how many grams of HCl are produced?



18. If 320 grams of sodium carbonate react with calcium hydroxide, how many grams of sodium hydroxide are formed (Hint double displacement reaction)?

19. How many grams of sodium iodide are produced by the decomposition of 60.0 g of sodium iodate?



20. If 10.0 g of aluminum sulfide are produced by the reaction of aluminum and sulfur, how many grams of sulfur were needed?

21. What volume (22.4L/mole) of oxygen is necessary to completely react with 1.25×10^5 kg of methane gas, CH_4 ?

